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| 10/517,451 | 12/09/2004 | Ryuzo Ueno | 1691-0205PUS1 | 5585 |

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| BIRCH STEWART KOLASCH & BIRCH | | |
| PO BOX 747 | | |
| FALLS CHURCH, VA 22040-0747 | | |

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| EXAMINER | |
| ISSAC, ROY P | |

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| ART UNIT | PAPER NUMBER |
| 1623 | |

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| NOTIFICATION DATE | DELIVERY MODE |
| 09/19/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/517,451

Applicant(s)

UENO ET AL.

Examiner

Roy P. Issac

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/09/04; 2/09/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION***Status of the Application***

This application is a 371 of PCT/JP03/07613 filed 06/16/2003, and claims priority under U.S.C § 119 to JAPAN 2002-178319 filed 06/19/2002. Claims 1-6 are currently pending and are examined on the merits herein. Certified copy of the priority document, JAPAN 2002-178319, have been filed in the instant application. The priority document is in Japanese and no English translation has been filed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims, 2 and 4 recites, "an aqueous solution has a solid content of 97.5% to 99.5% wt%." It is not clear how a composition that has such a high solid content can be considered an aqueous solution. Since many solid substances have moisture content falling within the range of 2.5-0.5% range, it is not clear whether such solids would be considered to fall within the description herein. Furthermore, it is not clear whether a melted form of solid with moisture content would be considered an "aqueous solution". As such the phrase is deemed indefinite.

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Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 recite the step of adding water several times. However, it is not clear how many times water is added and how much water is added. Thus, one of skill in the art would not be apprised of the metes and merits of the claim herein.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al. (U.S. Patent No. 5,354,856; PTO-1449) in view of Flickinger et. al. (Encyclopedia of bioprocess technology – Fermentation, biocatalysis, and bioseparation, Pages 1259-1260; PTO-892).

Kawashima discloses a method for producing crystalline maltitol using a kneading-extruding machine having a cooler. (Abstract; Column 4, lines 28-36). An aqueous solution of maltitol is continuously supplied through an extruder with elongated cooling and kneading zones, growing a maltitol magma by cooling and kneading aqueous solution of maltitol in the presence of seed crystals. Aqueous solutions of maltitol with solid content of 89.0% and maltitol content of 95.2% is

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disclosed. (Column 10-11, Example 4). The disclosed seed crystals have 0.5% moisture, falling in the 97.5 to 99.5% solid content claimed herein for the second maltitol aqueous solution. The seed crystals with 0.5% moisture is considered an aqueous maltitol solution since the moisture content falls within the range of 99.5% solid content claimed herein. Kawashima discloses the steps of cooling magma produced after addition of seed crystals followed by pulverization. (column 13-14, Claim 3).

Kawashima does not expressly disclose the addition of water as an additional step or the step of additional extrusions after water addition.

Flickinger et. al. discloses the diagram of a commercially available extruder/ kneader. The kneader shows inlets for additional water input during kneading. Flickinger notes that cooling jackets are some times used with extruders. (Page 1259, Column 2, Paragraph 2, lines 11-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add water to an aqueous solution while kneading. Note that the term kneading refers to mixing a composition to attain uniformity. It is considered well within the scope of basic skills of one of ordinary skill in the art to add additional water in an aqueous composition being mixed through inlets of commercially available extruders/kneaders to achieve desirable consistency in maltitol solutions. It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

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Therefore, one of ordinary skill in the art would have reasonably expected that the addition of water in a maltitol would result in substantially similar or better effects.

Thus the claimed invention as a whole is clearly prima facie obvious over the combined teachings of the prior art.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy P. Issac whose telephone number is 571-272-2674. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Roy P. Issac
Patent Examiner
Art Unit 1623

 9/13/07
S. Anna Jiang, Ph.D.
Supervisory Patent Examiner
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